The Evening Sky Map

FREE* EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

NORTHERN HEMISPHERE
MARCH 2013

Sky Calendar – March 2013

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1 **Moon very near Spica** (137° from Sun, morning sky) at 5h UT. Occultation visible from central South America.

2 **Moon near Saturn** (morning sky) at 15h UT. Mag. +0.4.

4 **Mercury at inferior conjunction** with the Sun at 13h UT. Mercury passes into the morning sky.

4 **Last Quarter Moon** at 21:54 UT.

5 **Moon at perigee** (closest to Earth) at 23h UT (369,957 km; 32.3').

10 **Comet PANSTARRS** (C/2011 L4) at perihelion at 4h UT. Expected to be easily visible mid- to late-March in the western sky (mid-northern latitudes) after sunset.

11 **New Moon** at 19:53 UT. Start of lunation 1116.

17 **Moon near the Pleiades** (evening sky) at 4h UT.

18 **Moon near Jupiter** (72° from Sun, evening sky) at 1h UT. Mag. −2.2.

18 **Moon near Aldebaran** (evening sky) at 2h UT.

18 **Moon, Jupiter & Aldebaran** within circle diameter 5.0° (evening sky) at 6h UT. Mags. −2.2 and +0.8.

19 **Moon at apogee** (farthest from Earth) at 3h UT (distance 404,261 km; angular size 29.6').

19 **First Quarter Moon** at 17:26 UT.

20 **Vernal equinox** at 11:02 UT. The time when the Sun reaches the point along the ecliptic where it crosses into the northern celestial hemisphere marking the start of spring in the Northern Hemisphere and autumn in the Southern Hemisphere.

22 **Moon near Beehive cluster** (evening sky) at 22h UT.

24 **Comet Lemmon** (C/2012 F6) at perihelion at 12h UT.

24 **Moon near Regulus** (evening sky) at 17h UT.

27 **Full Moon** at 9:29 UT.

28 **Moon very near Spica** (163° from Sun, morning sky) at 16h UT. Occultation visible from S.E. Asia and N.E. Australia.

28 **Venus at superior conjunction** with the Sun at 17h UT. Passes into the evening sky (not visible).

29 **Moon near Saturn** (morning sky) at 20h UT. Mag. +0.3.

31 **Moon at perigee** (closest to Earth) at 4h UT (367,504 km; 32.5').

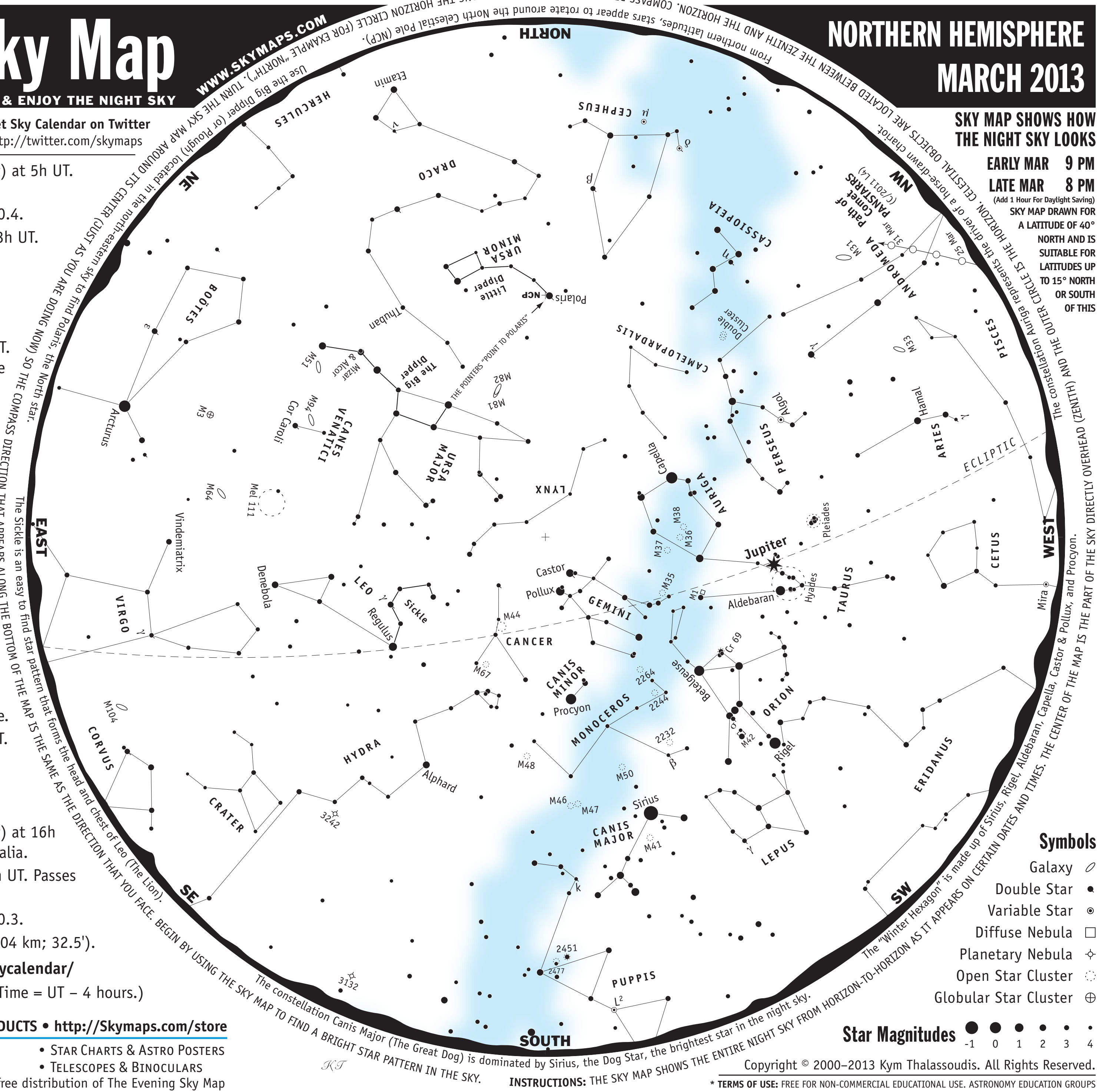
More sky events and links at http://Skymaps.com/skycalendar/

All times in Universal Time (UT). (USA Eastern Summer Time = UT – 4 hours.)

SKY MAP SHOWS HOW THE NIGHT SKY LOOKS

EARLY MAR 9 PM
LATE MAR 8 PM
(Add 1 Hour For Daylight Saving)

SKY MAP DRAWN FOR A LATITUDE OF 40° NORTH AND IS SUITABLE FOR LATITUDES UP TO 15° NORTH OR SOUTH OF THIS


NORTH
NE
EAST
SE
SOUTH
SW
WEST
NW
CEPHEUS
DRACO
HERCULES
Etamin
CASSIOPEIA
URSA MINOR
Little Dipper
NCP
Polaris
Thuban
BOOTES
Arcturus
M3
M51
Mizar & Alcor
The Big Dipper
THE POINTERS "POINT TO POLARIS"
M82
M81
CAMELOPARDALIS
Double Cluster
ANDROMEDA
M31
Path of Comet PANSTARRS (C/2011 L4)
31 Mar
25 Mar
PISCES
M33
Algol
PERSEUS
Hamal
ARIES
ECLIPTIC
Cor Caroli
M94
CANES VENATICI
URSA MAJOR
LYNX
Capella
AURIGA
M38
M36
M37
Pleiades
Jupiter
Hyades
Aldebaran
TAURUS
CETUS
Mira
M64
Mel 111
Vindemiatrix
Denebola
LEO
Sickle
Regulus
Castor
Pollux
GEMINI
M35
M1
M44
CANCER
VIRGO
M67
CANIS MINOR
Procyon
2264
2244
Cr 69
Betelgeuse
ORION
M42
Rigel
MONOCEROS
2232
M104
CORVUS
HYDRA
Alphard
M48
M50
CRATER
3242
M46
M47
Sirius
CANIS MAJOR
M41
ERIDANUS
LEPUS
2451
2477
PUPPIS
3132

WWW.SKYMAPS.COM

INSTRUCTIONS: THE SKY MAP SHOWS THE ENTIRE NIGHT SKY FROM HORIZON-TO-HORIZON AS IT APPEARS ON CERTAIN DATES AND TIMES. THE CENTER OF THE MAP IS THE PART OF THE SKY DIRECTLY OVERHEAD (ZENITH) AND THE OUTER CIRCLE IS THE HORIZON. CELESTIAL OBJECTS ARE LOCATED BETWEEN THE ZENITH AND THE HORIZON. COMPASS DIRECTIONS ARE INDICATED ALONG THE HORIZON CIRCLE (FOR EXAMPLE "NORTH"). TURN THE SKY MAP AROUND ITS CENTER (JUST AS YOU ARE DOING NOW) SO THE COMPASS DIRECTION THAT APPEARS ALONG THE BOTTOM OF THE MAP IS THE SAME AS THE DIRECTION THAT YOU FACE. BEGIN BY USING THE SKY MAP TO FIND A BRIGHT STAR PATTERN IN THE SKY.

From northern latitudes, stars appear to rotate around the North Celestial Pole (NCP).

Use the Big Dipper (or Plough) located in the north-eastern sky to find Polaris, the North star.

The Sickle is an easy to find star pattern that forms the head and chest of Leo (The Lion).

The constellation Canis Major (The Great Dog) is dominated by Sirius, the Dog Star, the brightest star in the night sky.

The "Winter Hexagon" is made up of Sirius, Rigel, Aldebaran, Capella, Castor & Pollux, and Procyon.

The constellation Auriga represents the driver of a horse-drawn chariot.

Symbols

Galaxy ⬯
Double Star ●
Variable Star ⊙
Diffuse Nebula ☐
Planetary Nebula ✧
Open Star Cluster ◌
Globular Star Cluster ⊕

Star Magnitudes ● -1 ● 0 ● 1 • 2 • 3 · 4

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CELESTIAL OBJECTS

NORTHERN HEMISPHERE

MARCH 2013

About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. **Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars.** They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

Astronomical Glossary

Conjunction – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.

Constellation – A defined area of the sky containing a star pattern.

Diffuse Nebula – A cloud of gas illuminated by nearby stars.

Double Star – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").

Ecliptic – The path of the Sun's center on the celestial sphere as seen from Earth.

Elongation – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.

Galaxy – A mass of up to several billion stars held together by gravity.

Globular Star Cluster – A ball-shaped group of several thousand old stars.

Light Year (ly) – The distance a beam of light travels at 300,000 km/sec in one year.

Magnitude – The brightness of a celestial object as it appears in the sky.

Open Star Cluster – A group of tens or hundreds of relatively young stars.

Opposition – When a celestial body is opposite the Sun in the sky.

Planetary Nebula – The remnants of a shell of gas blown off by a star.

Universal Time (UT) – A time system used by astronomers. Also known as Greenwich Mean Time. USA Eastern Standard Time (for example, New York) is 5 hours behind UT.

Variable Star – A star that changes brightness over a period of time.

Easily Seen with the Naked Eye

Capella	Aur	●	The 6th brightest star. Appears yellowish in color. Spectroscopic binary. Dist=42 ly.
Arcturus	Boo	●	Orange, giant K star. Name means "bear watcher". Dist=36.7 ly.
Sirius	CMa	●	The brightest star in the sky. Also known as the "Dog Star". Dist=8.6 ly.
Procyon	CMi	●	Greek name meaning "before the dog" - rises before Sirius (northern latitudes). Dist=11.4 ly.
δ Cephei	Cep	◎	Cepheid prototype. Mag varies between 3.5 & 4.4 over 5.366 days. Mag 6 companion.
Castor	Gem	⚈	Multiple star system with 6 components. 3 stars visible in telescope. Dist=52 ly.
Pollux	Gem	●	With Castor, the twin sons of Leda in classical mythology. Dist=34 ly.
Regulus	Leo	●	Brightest star in Leo. A blue-white star with at least 1 companion. Dist=77 ly.
Rigel	Ori	●	The brightest star in Orion. Blue supergiant star with mag 7 companion. Dist=770 ly.
Betelgeuse	Ori	●	One of the largest red supergiant stars known. Diameter=300 times that of Sun. Dist=430 ly.
Algol	Per	⊙	Famous eclipsing binary star. Magnitude varies between 2.1 & 3.4 over 2.867 days.
Pleiades	Tau	◌	The Seven Sisters. Spectacular cluster. Many more stars visible in binoculars. Dist=399 ly.
Hyades	Tau	◌	Large V-shaped star cluster. Binoculars reveal many more stars. Dist=152 ly.
Aldebaran	Tau	●	Brightest star in Taurus. It is not associated with the Hyades star cluster. Dist=66.7 ly.
Polaris	UMi	⚈	The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist=433 ly.

Easily Seen with Binoculars

M31	And	⬯	The Andromeda Galaxy. Most distant object visible to naked eye. Dist=2.5 million ly.
M38	Aur	◌	Stars appear arranged in "pi" or cross shape. Dist=4,300 ly.
M36	Aur	◌	About half size of M38. Located in rich Milky Way star field. Dist=4,100 ly.
M37	Aur	◌	Very fine star cluster. Discovered by Messier in 1764. Dist=4,400 ly.
M44	Cnc	◌	Praesepe or Beehive Cluster. Visible to the naked eye. Dist=590±20 ly.
M3	CVn	⊕	Easy to find in binoculars. Might be glimpsed with the naked eye.
M41	CMa	◌	First recorded observation by Aristotle in 325 BC as "cloudy spot". Dist=2,300 ly.
Mel 111	Com	◌	Coma Berenices. 80 mag 5-6 stars in 5 deg. Dist=288 ly. Age=400 million years.
M35	Gem	◌	Fine open cluster located near foot of the twin Castor. Dist=2,800 ly.
M48	Hya	◌	12+ stars in 7x binoculars. Triangular asterism near centre. Dist=1,990 ly.
γ Leporis	Lep	⚈	Visible with binoculars. Gold & white stars. Mags 3.6 & 6.2. Dist=30 ly. Sep=96.3".
2232	Mon	◌	A large scattered star cluster of 20 stars. Dist=1,300 ly.
2244	Mon	◌	Surrounded by the rather faint Rosette Nebula. Dist=5,540 ly.
M50	Mon	◌	Visible with binoculars. Telescope reveals individual stars. Dist=3,000 ly.
Cr 69	Ori	◌	Lambda Orionis Cluster. Dist=1,630 ly.
M42	Ori	□	The Great Orion Nebula. Spectacular bright nebula. Best in telescope. Dist=1,300 light years.
Double Cluster	Per	◌	Double Cluster in Perseus. NGC 869 & 884. Excellent in binoculars. Dist=7,300 ly.
M47	Pup	◌	Bright star cluster. 15+ stars in 7x binoculars. Dist=1,500 ly.
M46	Pup	◌	Dist=5,400 ly. Contains planetary NGC 2438 (Mag 11, d=65") - not associated.
Mizar & Alcor	UMa	⚈	Good eyesight or binoculars reveals 2 stars. Not a binary. Mizar has a mag 4 companion.

Telescopic Objects

γ Andromedae	And	⚈	Attractive double star. Bright orange star with mag 5 blue companion. Sep=9.8".
γ Arietis	Ari	⚈	Impressive looking double blue-white star. Visible in a small telescope. Sep=7.8".
ε Boötis	Boo	⚈	Red giant star (mag 2.5) with a blue-green mag 4.9 companion. Sep=2.8". Difficult to split.
M67	Cnc	◌	Contains 500+ stars mag 10 & fainter. One of the oldest clusters. Dist=2,350 ly.
M94	CVn	⬯	Compact nearly face-on spiral galaxy. Dist=15 million ly.
M51	CVn	⬯	Whirlpool Galaxy. First recognised to have spiral structure. Dist=25 million ly.
η Cassiopeiae	Cas	⚈	Yellow star mag 3.4 & orange star mag 7.5. Dist=19 ly. Orbit=480 years. Sep=12".
M64	Com	⬯	Black-Eye Galaxy. Discovered by J.E. Bode in 1775 - "a small, nebulous star".
3242	Hya	⌖	Ghost of Jupiter. Bright blue disk. Mag 11 central star. Dist=2,600 ly.
γ Leonis	Leo	⚈	Superb pair of golden-yellow giant stars. Mags 2.2 & 3.5. Orbit=600 years. Sep=4.4".
β Monocerotis	Mon	⚈	Triple star. Mags 4.6, 5.0 & 5.4. Requires telescope to view arc-shape. Sep=7.3".
2264	Mon	◌	Christmas Tree Cluster. Associated with the Cone Nebula. Dist=2,450 ly.
σ Orionis	Ori	⚈	Superb multiple star. 2 mag 7 stars one side, mag 9 star on other. Struve 761 triple in field.
k Puppis	Pup	⚈	Telescope easily shows two blue-white stars of almost equal brightness. Sep=9.9".
M1	Tau	□	Crab Nebula. Remnant from supernova which was visible in 1054. Dist=6,500 ly.
M81	UMa	⬯	Beautiful spiral galaxy visible with binoculars. Easy to see in a telescope.
M82	UMa	⬯	Close to M81 but much fainter and smaller.
γ Virginis	Vir	⚈	Superb pair of mag 3.5 yellow-white stars. Orbit=169 years. At their closest in 2005.

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